Damping of monocular pendular nystagmus with vibration in a patient with multiple sclerosis

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Editors' Note: In reference to the article "Damping of monocular pendular nystagmus with vibration in a patient with multiple sclerosis," Dr. Ehling et al. describe their own unsuccessful attempt at vibration therapy. Authors Zee et al. discuss their ongoing investigation into the treatment. Dr. Burke calls for a correction to the article "Aldehyde dehydrogenase variation enhances effect of pesticides associated with Parkinson disease," over the absence of evidence of 3,4-dihydroxyphenylacetaldehyde (DOPAL) toxicity to dopaminergic neurons in a previous study cited by the authors. A correction has been duly published with the appropriate attributions.

—Megan Alcauskas, MD, and Robert C. Griggs, MD

DAMPING OF MONOCULAR PENDULAR NYSTAGMUS WITH VIBRATION IN A PATIENT WITH MULTIPLE SCLEROSIS

Rainer Ehling, Muenster; Andreas Lutterotti, Innsbruck; Christian Brenneis, Muenster, Austria: Inspired by Beh et al.,[1] we used the vibration technique in a 24-year-old woman with multiple sclerosis (MS) presenting with monocular, vertical pendular nystagmus (PN) with 4–5 Hz and oscillopsia. Cerebral MRI revealed T2 lesions at the ponto-mesencephalic junction on the left and in the cerebellum on the right side. However, vibration using the Mini Vibrator (100 Hz; Rehaforum Medical, Elmshorn, Germany) over the vertex, both mastoids, and the chin did not relieve oscillopsia or nystagmus. It is possible that the vertical nature of the PN in our patient—unlike the authors' patient—affected different structures of the neural integrator (NI) and was less influenced by peripheral feedback. Therefore, the specific lesion site of the NI in the brainstem or cerebellum might contribute to different responses to vibration. In addition, our patient's discomfort during the procedure may have inhibited success of this therapy. When intended as a permanent therapy, vibration might even delay adaptation processes in an inflammatory disease like MS, in which remyelination and compensatory mechanisms are frequent in the early disease course.[2]

Author Response: David S. Zee, Baltimore; Shin C. Beh, Dallas; Amir Kheradmand, Baltimore: We thank Ehling et al. for their comments. Since our original observation,[1] we have used vibration in several more patients with nystagmus. Some—but not all—patients responded. Similar to other treatments for nystagmus, not every patient responds and it may depend on the nature or location of the lesion. The type of vibrator may also be important and we are currently investigating options. Our original suggestion for treatment was for transient use, perhaps minutes, when high visual acuity and image stability were needed. We have no evidence that brief periods of vibration will enhance or retard compensation in demyelinating diseases but we consider it unlikely. Further investigation is necessary to determine modulation of nystagmus with skull vibration.

1. Beh SC, Tehrani AS, Kheradmand A, Zee DS. Damping of monocular pendular nystagmus with vibration in a patient with multiple sclerosis. Neurology 2014;82:1380–1381.
2. Compston A, Coles A. Multiple sclerosis. Lancet 2008;372:1502–1517.

ALDEHYDE DEHYDROGENASE VARIATION ENHANCES EFFECT OF PESTICIDES ASSOCIATED WITH PARKINSON DISEASE

William J. Burke, St. Louis: In their article on aldehyde dehydrogenase variation and effect on pesticides associated with Parkinson disease (PD), the conclusions of Fitzmaurice et al.[1] are based on the findings that 3,4-dihydroxyphenylacetaldehyde (DOPAL) is toxic to dopamine neurons. They stated: "We previously reported that pesticide-induced ALDH inhibition can lead to the accumulation of toxic aldehydes (e.g., DOPAL) and result in dopaminergic cell death.[11]" Their reference 11[2] is an earlier study by these authors. There is no direct study of DOPAL or its toxicity in this article. The correct attributions to DOPAL toxicity are in vitro[3] and in vivo.[4] A correction should be published.

Author Response: Jeff M. Bronstein, Arthur Fitzmaurice, Los Angeles: Dr. Burke is a key investigator in this field highlighting the potential importance of DOPAL in PD pathogenesis. It was his work and others that we referenced that led us to pursue ALDH activity in our study of pesticides. We agree

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